

Geosci. Model Dev. Discuss., referee comment RC2
<https://doi.org/10.5194/gmd-2021-208-RC2>, 2021
© Author(s) 2021. This work is distributed under
the Creative Commons Attribution 4.0 License.

Comment on gmd-2021-208

Anonymous Referee #2

Referee comment on "Added value of EURO-CORDEX high-resolution downscaling over the Iberian Peninsula revisited – Part 2: Max and min temperature" by João António Martins Careto et al., Geosci. Model Dev. Discuss., <https://doi.org/10.5194/gmd-2021-208-RC2>, 2021

Part II of this study applies the distribution added value (DAV) to the validation of temperatures from EURO-CORDEX downscalings and their respective parent global datasets.

This manuscript shares its methodology with Part I, in which the same assessment is performed for precipitation.

The work done in this study contains original research and fits very well into the scope of GMD.

As with Part I, I found especially the Introduction well written. It does a great job at setting the stage for the following presentation of the data and results.

I find, however, a certain mismatch between the nine pages of meticulously presented results and the merely 21 lines of conclusions at the end.

Specific comments:

As with Part I, I found the use of the term "relevant" and "significant" to be very problematic and misleading. I would highly recommend to refrain from the use of "significant" unless in the context of an objectively calculated measure of significance. This affects the complete discussion of the results, the conclusion, and the abstract. Especially worrying and ambiguous uses are "not as significant" (by what standard?) and even "somewhat significant".

The description of the results is often unclear and difficult to follow. I suggest to carefully proofread the whole manuscript regarding the use of English language.

line 38: Please rephrase, it is unclear what is meant with "these uncertainties are usually derived"

I suggest two rephrase instances of "weaker/stronger gains".

line 74: "spatial representation and correlation" of what?
line 82: Please explain what is meant with "different driving mechanisms in comparison to observations".
line 182: unclear what is meant with "reveal closer proximity".
line 184: I do not understand the use of "namely" here.
line 204: What is a small bias in this context? What magnitude are we talking about? And do you mean a small ratio of standard deviations, or a ratio close to 1?
line 211: Why does the data assimilation of temperature observations in ERA-Interim make it so that it is difficult to achieve added value only for TASMING, but not for TASMING?
Without further explanation, I find this argument speculative.
line 216: Please rephrase "the panorama is not so different".
line 219: Please rephrase "contradicts the results".
line 226: unclear: "allied with improvements"
line 229: unclear: "close performance to the driving ERA-Interim"
line 261: unclear: "strong or most points"
line 275-277: unclear
line 289: unclear "lower values are derived from the losses"
line 318: unclear "no connection is found for each downscaled GCM"
line 323: not sure about the use of "yet" here. Is there really a contrast between the two sentences?
line 349: unclear

I find the last section to be very short and somewhat lacking.

The whole section is written in one paragraph of 21 lines and seems, to be honest, incomplete.

I recommend to revisit this section, provide a thorough summary, present the main conclusions, and discuss their relevance in context to other studies and to the field of regional climate modelling as a whole.

There are very interesting results in this manuscript, and I am looking forward to a revised version.

Technical comments:

Throughout the manuscript: The unit "km" is written as "Km", often with a space missing in front of "Km".

Please consider to use either British English (kilometre, analysed, normalised) or American English (~ized, ~zation), instead of mixing the two.

The term "convection permitting" is wrongfully written as "convective permitting".

Please remove commas before in citations like "Lhotka, (2018)"

line 17: Please consider using "development" instead of "appearance"

line 18: "spamming" -> maybe supposed to be "spanning" ?

line 34: There is something off with this sentence.

line 46: remove the "." after reference.

line 66: affects -> affect

line 72: rephrase "over for most"

line 85: overperform -> outperform ?

line 89: Please rephrase "while underestimate for lower altitudes".

line 94: fix capitalisation in "probability Density Functions"

line 301: "Although" does not fit to the rest of the sentence. And "spam" -> "span"?

line 360: rephrase "superior"

line 362 and 366: "had" -> "have"